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SEPARATOR WITH FLUID DISTRIBUTION FEATURES FOR USE WITH A MEMBRANE ELECTRODE ASSEMBLY IN A FUEL CELL

Abstract

Electrochemically inactive separators may be employed at the periphery of membrane electrode assemblies in fuel cells (such as solid polymer electrolyte fuel cells) to separate the various fluids within (for example, reactants, coolant). Complex fluid distribution features may be incorporated into these separators, thereby desirably simplifying the design and manufacture of other fuel cell components, such as the flow field plates employed to distribute fluids to the cell electrodes. This is particularly advantageous in fuel cells comprising thin, corrugated flow field plates. The separators may be bonded to the membrane electrode assemblies to form convenient, unitary structures.